Wednesday, March 31, 2004

10:00 am - 4:00 pm **Registration** ***Mezzanine***

11:00 am - 4:00 pm **Vendor Exhibits** ***Mezzanine***

1:00 pm - 1:30 pm **Welcome** ***Imperial Ballroom***

Sarah V. Hart — **Director, National Institute of Justice**

1:30 pm - 2:00 pm **Keynote Addresss**

Edward A. Flynn — **Secretary of Public Safety, Commonwealth of Massachusetts**

2:00 pm - 3:00 pm **Opening Remarks**

Presenters

Thomas E. Feucht — **Acting NIJ Assistant Director for Research and Evaluation**

John S. Morgan — **Acting NIJ Assistant Director for Science and Technology**

Debra A. Stoe — **MAPS Program**

3:30 pm - 5:00 pm **Workshops**

Analyzing and Mapping NIBRS Data *Arlington*

Intermediate

Presenters

Daniel B. Bibel — **Massachusetts State Police**
and
Don Faggiani — **Police Executive Research Forum**

Research with NIBRS Data

This workshop will present information necessary to prepare the researcher to (1) obtain NIBRS data, (2) prepare it for analysis using SPSS, and (3) develop the skills needed to map the data. It is anticipated that the audience will have some knowledge of both analysis and mapping; the target audience is the crime analyst at the state or regional level. The cautions that need to be considered when dealing with official police data, as submitted from a number of different agencies, will be covered. The problems of comparing different data sources will also be addressed.

Building a Great COMPSTAT Meeting *Plaza Ballroom*

General Audience

Presenter

Tom Casady **Lincoln Police Department**

Building a Great COMPSTAT Meeting
COMPSTAT, the ubiquitous meeting to review crime trends revealed by GIS analysis, needs a facelift. This presentation will explore new ideas on how to liven up these sometimes-dry meetings to make them more productive, more informative, and more interesting.

Emerging Technologies in Law Enforcement *Hancock*

General Audience

Presenter

Michael O'Shea **National Institute of Justice**

Public Safety Technology Tools, Techniques, and Assistance
Use of technology has evolved over the years and its importance to the overall public safety mission has grown. Technology has become the silent partner, enhancing capabilities and helping to stretch thin resources. This presentation provides an overview of several ongoing and emerging technology programs, which have significant potential to support federal, state and local public safety in their various missions. The presentation will also cover several of the public safety technology programs of the U.S. Department of Justice/National Institute of Justice and consider how public safety can leverage work in technology as well as get assistance for technology endeavors.

Maximizing Maps with Color *Georgian*

General Audience

Presenter

Jerry Ratcliffe **Temple University**

Maximizing Your Mapping Impact With Effective Use of Color and Presentation Skills
Many spatial crime analysts spend weeks working on a project only to see their efforts wasted through mediocre maps or poor presentations. This session guides crime mappers, who might not have taken a cartography or presentation skills class, in two ways. The first half explores how people see and perceive color and how this understanding can improve the clarity and impact of maps and graphics. The second half explains how to convey text and graphical information in an intelligence briefing, using PowerPoint, with some simple guidelines.

Problem Analysis and Crime Mapping *Stanbro*

General Audience

Presenter

Rachel L. Boba **Florida Atlantic University**

Problem Analysis and Crime Mapping

This workshop provides participants an understanding of crime mapping in the context of problem solving. The workshop begins by introducing "problem analysis" and its relationship to current crime analysis, crime mapping, and problem-solving activities in local police departments today. The workshop focuses on how secondary data available to analysts and primary data collected for a specific project can be examined spatially to inform a problem analysis as well as theory that can inform the analysis process. The last section of the workshop is a demonstration and discussion of practical examples and participants' own circumstances.

Spatial Data Analysis with GeoDa *Berkeley*

Intermediate

Presenters

Sanjeev Sridharan **Westat**

Exploratory Spatial Data Analysis Using GeoDa

GeoDa is a freely downloadable software. Using GeoDa, we will demonstrate the utility of Exploratory Spatial Data Analysis (ESDA) methods in criminology. The topics covered include: (1) Review of Exploratory Spatial Methods in Criminology; (2) Spatial Data; (3) Three Recent Examples of Spatial Research; (4) Local and Global Measures of Spatial Autocorrelation; (5) Multiple Definitions of "Neighborhood." Application for State agencies as well as local agencies will be explored.

What is GIS? *Clarendon*

Beginning

Presenter

Katie M. Filbert **National Institute of Justice**

What is Geographic Information Systems (GIS)?

This workshop introduces basic concepts of Geographic Information Systems (GIS), applications of GIS for crime analysis and police operations, and how to get started with GIS implementation, using GIS as part of inter-agency and jurisdictional information sharing, possibilities of integrating GIS with other technology such as GPS, and will discuss cautions for applying GIS technology.

5:30 pm - 7:00 p.m. **The Crime Map Awards Ceremony** ***Terrace***

Thursday, April 1, 2004

7:00 am - 4:30 pm **Registration** ***Mezzanine***

7:30 am - 3:30 pm **Vendor Exhibits** ***Mezzanine***

8:00 am - 11:15 am **Workshops**

Basics of Cartography *Clarendon*

Beginning

Presenter

James L. LeBeau **Southern Illinois University at Carbondale**

Basics of Cartography

The growth of automated mapping in criminal justice has been phenomenal. During the rush to get going with mapping, new users have focused on the technology of making maps while ignoring the science and art of making a map. This serious oversight limits the efficiency, effectiveness, and in some instances, the credibility of crime mapping. This workshop will feature discussion and illustration of the important basics of cartography. Topics include: the elements of a map; generalization and scale; coordinate systems; visualizing different data scales; symbols and visual variables; color design; and different types of thematic maps.

DMS Portal *Hancock*

General Audience

Presenters

Melinda K. Higgins **Georgia Tech Research Institute**
and
Michael L. Thomas **U.S. Department of Defense**

National Guard Digital Mapping Server Portal: Embodying a "One-Stop" Portal Approach for Total GIS Needs

(Melinda K. Higgins, Michael L. Thomas, Nick Faust, Frank McCreedy, John Sample, Kevin Shaw, Rickey Thomas)

The National Guard Bureau Counterdrug Office has implemented a Digital Mapping Server (DMS) portal, embodying a "One-Stop" portal approach for total GIS needs. DMS supports GIS requirements with open source mapping data and tools provided at no-cost to law enforcement, saving time, money, and effort. The presentation introduces the DMS portal and how to use it in various law enforcement operations. DMS ties many disparate GIS databases together into a single interface and can perform map projection translation on the fly, allowing users to add datasets from their own systems.

Fusion Training: Creating a GIS Analysis Product *Georgian*

General Audience

Presenters

Wesley D. Baker — **National Geospatial Intelligence Agency**
and
Michael Ellicott — **National Geospatial Intelligence Agency**
and
Jared L. Ware — **National Geospatial Intelligence Agency**

Geospatial Data Fusion Training for Homeland Security in Urban Environments – Creating a GIS Analysis Product from Start to Finish

(Jared L. Ware, Michael Ellicott, Jr. and Wesley D. Baker)

The presentation discusses techniques for developing homeland security training using geospatial data fusion for a wide range of users. A credible geospatial data product can be used to enhance analysis, ultimately helping decisionmakers to devote the proper personnel and resources to mitigating criminal acts and protecting the public and its property. The focus will be on gathering geospatial data from an urban environment and producing homeland security analysis products. The aim is to provide techniques that develop training in geospatial analysis for a wide variety of users.

Geographically Weighted Regression *Berkeley*

Intermediate

Presenters

Martin Charlton — **University of Newcastle**
and
A. Stewart Fotheringham — **University of Newcastle**

Geographically Weighted Regression and Associated Developments

Geographically Weighted Regression (GWR) is a statistical technique that allows variations in relationships for spatial units in some study area to be measured within a single modeling framework. This workshop will introduce attendees to the nature of GWR, local modeling, and local statistics. It will also consider the use of GWR through a series of worked examples based on crime and socio-economic statistics for England and Wales, showing the use of GIS in visualizing outputs from a GWR analysis.

Introduction to CrimeStat III *Stanbro*

Advanced

Presenters

Ned Levine — **Ned Levine & Associates**
and
Richard Block — **Loyola University Chicago**

Introduction to CrimeStat III

This workshop will present an introduction to CrimeStat III, the spatial statistics program developed by Ned Levine & Associates and distributed by the Mapping and Analysis for

Public Safety program at the National Institute of Justice. The workshop is targeted to intermediate GIS users.

Mapping for Managers *Plaza Ballroom*

General Audience

Presenter

Noah J. Fritz — **National Law Enforcement and Corrections Technology Center - Rocky Mountain**

Crime Mapping for Managers

Police departments around the world are beginning to use Geographic Information Systems (GIS) for crime mapping in general operations. Crime and intelligence analysis allow leadership to make better-informed decisions regarding tactical, strategic and administrative actions. This session covers crime mapping and crime/intelligence analysis for mid and upper-level managers. Topics like COMPSTAT, problem analysis, resource allocation, community policing, privacy-security, regional data sharing, intelligence-led policing, and crime series analysis will be discussed in this session. A variety of possible mapping outputs/products will illustrate what the crime mapping staff in an agency could produce. The session closes with a question-and-answer session to address audience members' issues on implementing and managing a GIS-based crime analysis unit.

Techniques of Spatial Regression *Arlington*

Advanced

Presenter

Sanjeev Sridharan — **Westat**

Techniques of Spatial Regression

Spatial regression techniques have begun to be implemented in a number of fields, including criminology, economics, demography, and public health. In this presentation, researchers review some of the spatial analytical techniques and their utility in studying criminological processes. There are three goals, to: (1) Develop an intuitive understanding of the utility of spatial regression techniques in social and policy sciences, (2) Develop a working understanding of using spatial analysis software (specifically Spacestat and GeoDa) 3. Develop an understanding of the connections between specific spatial statistical techniques and substantive social processes (e.g., operationalizing diffusion).

11:30 am - 1:00 pm **Lunch on your Own**

1:00 pm - 2:30 pm **Concurrent Panels**

Spatial Technology Showcase Session *Hancock*

General Audience

Corrections, Probation, and Parole I *Stanbro*

General Audience

Moderator

Andrew L. Goldberg **National Institute of Justice**

Presenters

Mike Carmichael **Winston-Salem State University**

Reentry and Revitalization: Using Mapping and Analysis for Community Problem-Solving

(Mike Carmichael, Sylvia Oberle)

This presentation will examine ongoing research and practical application of mapping that analyze issues related to ex-prisoners reentry and revitalization in an urban neighborhood in Winston-Salem, North Carolina. The mapping project tracks concentrations of returning ex-prisoners and other neighborhood indicators. It works with residents to identify both traditional and non-traditional resources and assets to assist the transition of ex-prisoners into the community and to stabilize the neighborhood.

Nancy G. La Vigne **The Urban Institute**

Reentry Mapping Network: Using Spatial Data to Inform Local Prisoner Reentry Efforts

(Nancy G. La Vigne, Sylvia Oberle, Jim B. Pingel, Jamie Watson)

The Reentry Mapping Network (RMN) is a partnership among community-based organizations and The Urban Institute, designed to create community change through the mapping and analysis of neighborhood-level data and enhance well being for communities and reentering prisoners. Partners use mapping to pinpoint neighborhoods with high concentrations of returning prisoners and see how well such communities can address the prisoner reentry challenges. Analytical findings help to mobilize community members and leaders to effectively target and address reentry-related problems. This panel gives an overview of the RMN model, followed by presentations by two of the six pilot sites, Winston-Salem, North Carolina (establishing effective community assets), and Milwaukee, Wisconsin (strengthened coordination of service providers).

Jim B. Pingel **Wisconsin Sentencing Commission**

Reentry Mapping Network: Using Spatial Data to Inform Local Prisoner Reentry Efforts

(Jim B. Pingel, Nancy G. La Vigne, Sylvia Oberle, Jamie Watson)

The Reentry Mapping Network (RMN) is a partnership among community-based organizations and The Urban Institute, designed to create community change through the mapping and analysis of neighborhood-level data and enhance well being for communities and reentering prisoners. Partners use mapping to pinpoint neighborhoods with high concentrations of returning prisoners and see how well such communities can address the prisoner reentry challenges. Analytical findings help to mobilize community members and leaders to effectively target and address reentry-related problems. This panel gives an overview of the RMN model, followed by presentations by two of the six pilot sites,

Winston-Salem, North Carolina (establishing effective community assets), and Milwaukee, Wisconsin (strengthened coordination of service providers).

Geographic Profiling and Forecasting I *Georgian*

Advanced

Moderator

Akiva Liberman **National Institute of Justice**

Presenters

Wilpen L. Gorr **Carnegie Mellon University**

Bottom Line on Crime Forecasting

The research presents comprehensive results of crime forecast experiments in two northeastern U.S. cities. The results provide evidence that high volume crimes can be forecast accurately (10 to 20 percent error) in areas as small as car beats. It compares simple forecast methods with advanced methods, including a neighborhood-type method of estimating crime seasonality and leading indicator models. Investigators believe that crime forecasts coupled with hot spot methods will advance the crime mapping state-of-art.

Brent Snook **University of New Brunswick**

Process and Outcome Analysis of Predictions on a Geographic Profiling Task

(Brent Snook, Craig Bennell, Paul J. Taylor, Michele Zito)

This talk on geographic profiling will present the results of an examination of (1) the cognitive strategies people use to make predictions on the geographic profiling task, (2) the accuracy of predictions in relation to different strategies, (3) when and why particular strategies succeed and fail, (4) the possibility of training officers to improve their decisionmaking, (5) the complexity of different strategies, and (6) providing fast, frugal, and accurate methods for making geographic predictions.

Jasper J. van der Kemp **Netherlands Institute for the Study of Crime and Law Enforcement**

Geographic Profiling, Minus Math Add Psychology

Establishing the factors that influence criminal location choice is essential for further developing geographical profiling. Geographical profiling entails a reversal of a theory of location choice and could profit from elaboration on the theory with examples of cases of serial burglary and rape. The presentation discusses the importance of knowing factors that influence criminal location choice. It demonstrates that geographical profiling must branch out from using only the topographic location information, where a crime has been committed (in a mathematical model), to incorporating psychological concepts, which can determine the weight to be assigned for crimes in a profiled series.

GIS Applications I (Web Systems) *Clarendon*

General Audience

Moderator

Michael O'Shea **National Institute of Justice**

Presenters

Joe Kezon **Chicago Police Department**

CLEAR GIS

(Joe Kezon, Scot Hamilton)

The Chicago Police Department (CPD) is using GIS to supplement the department's CLEAR (Citizens Law Enforcement Analysis and Reporting) initiative. CPD has developed an extensive database of criminal information that is available through the web. As officers use the web-based queries, all returned information will be able to be displayed using ArcIMS. Based on the original query, additional mapping functionality will be available to the officer for further analysis. This system will replace the CPD's present antiquated systems. The system uses ArcIMS, ArcSDE, ArcSDE, Java API, and a RDBMS.

David Martin **Wayne State University**

Mapping Out "The Dirty Dozen": A Web-Enabled, Parcel-Based Crime Mapping and Analysis System

Police and prosecutors in Detroit, Michigan, are increasingly using civil remedies such as code enforcement, nuisance abatement, and drug forfeiture to address persistent trouble spots in the community. This paper describes a web application built using ArcIMS, Coldfusion, and Microsoft Access to support a dynamic mapping and analysis system that automatically identifies the top crime producers according to crime and calls for service data. The system links a variety of datasets, at the parcel-level, to provide instant information on crime history for places, ownership, community groups, and other factors that are important considerations in light of civil enforcement.

Steven Rose **West Midlands Police Department**

COSMOS – Community Safety Mapping On-Line System: A Web-Based GIS Informing Partnership Information and Intelligence Management

COSMOS is a web site that has been created for Birmingham Community Safety Partnership. It is designed as a central point of contact for agencies in Birmingham and the West Midlands. The system provides access to multi-agency data through standard reports and easy to use mapping and analysis tools. Data is reported in standard agency geographies, allowing data and information to be compared and analyzed together while maintaining maximum flexibility. The website is a tool to aid true partnership working and information sharing engaging the less PC literate users.

GIS for Public Safety I (Bio-terrorism) *Arlington*

Intermediate

Moderator

Jane L. Garb **Baystate Medical Center**

Presenters

James G. Glass **San Antonio Police Department**

The Role of GIS and the Crime Analyst in Homeland Security Preparedness and Emergency Operations

(James G. Glass, Jeffrey Moore)

Many crime/intelligence analysts have taken on new responsibilities since the September 11 tragedies, including dealing with homeland security preparedness. The focus of this presentation will be on the crime analysts' role in supporting first responders (primarily police and fire personnel) with critical spatially enabled information for decision support and event management. Special attention will be placed on key areas of planning, mitigation, preparedness, response, and recovery from a police perspective. Examples from a recent mock terrorist exercise held in San Antonio, Texas, will also be presented.

Tom Rich **Abt Associates Inc.**

Mapping Resources Necessary for Responding to Bioterrorism

A web-based tool for compiling an inventory of critical healthcare and other emergency resources needed to respond to a bioterrorist attack is being tested in an eight-county region of east-central Pennsylvania. After initial implementation, a series of mapping capabilities, utilizing ESRI's web services platform, will be added to the tool, including driving directions, distance calculations based on existing road networks, and thematic mapping showing the distribution and status of resources. This presentation will discuss the bioterrorism inventory tool, the web services approach to mapping, and the value that mapping has added to the tool.

Jane L. Garb **Baystate Medical Center**

Areal Interpolation of Census Data for Disaster Preparedness and Response

(Jane L. Garb, Robert W. Cromley)

The session presents several methods for estimating census population data for geographic units relevant in the context of disaster preparedness and response. Boundaries for drainage sub-basins, the area covered by the plume of a toxic release, police sectors, etc. do not usually coincide with those for census collection units (tracts, block groups, etc.). for which population data is available. Counts or rates for these non-standard units may be estimated by various areal interpolation methods. This presentation will show how to estimate affected populations on-the-fly, in response to a disaster, and how to maintain updated data in preparation for future unplanned events.

Local, Regional, and Federal Mapping Initiative I (NLECTC) *Berkeley*

General Audience

Moderator

Robert W. Donlin — **National Law Enforcement and Corrections Technology Center - Southeast**

Presenters

Sean Bair — **National Law Enforcement and Corrections Technology Center - Rocky Mountain**

and

Dan Helms — **National Law Enforcement and Corrections Technology Center - Rocky Mountain**

and

Robert W. Donlin — **National Law Enforcement and Corrections Technology Center - Rocky Mountain**

Crime Mapping Assistance from NLECTC

This presentation will provide valuable information on how practicing crime analysts and police professionals, as well as academic researchers in the field of crime analysis, can utilize the technology transfer and direct assistance remit of the National Law Enforcement and Corrections Technology Center system. It focuses on crime mapping and tactical crime analysis assistance from the Rocky Mountain Center located in Denver and in particular on the Crime Mapping and Analysis Program.

Spatial Analysis and Research I (Hot Spots) *Plaza Ballroom*

Intermediate

Moderator

Kenneth M. Johnson — **Seattle Police Department**

Presenters

Alan J. Brimicombe — **University of East London**

On Being More Robust About Hot Spots

Within GIS-based identification of hot spots, two new, complementary techniques are described and applied. First is a variable resolution approach to cluster detection that overcomes many problems of traditional point density estimation and provides a bridge between hot spot detection based on incident counts and hot spot detection based on risk. Second is a method of robust data normalization that readily identifies outliers. When applied to traditional choropleth mapping, it identifies count- and/or risk-based hot spots consistent with point density approaches. Applied to variable resolution clustering of counts and risks, it becomes a decision-making tool for problem-oriented policing.

Jason R. Dalton — **University of Virginia**

Maximum Likelihood Model for Criminal Events – Using Environmental Features to Build a More Complete View of a Region

The generally applied practice of spatial modeling based on coordinate location largely

follows statistical methods that were not intended for use in the geographic space. This presentation shows a method of maximum likelihood estimates of density, based on data collected for the surrounding environment. Examples of the application of this concept will be shown, with a description of the statistical basis.

Kenneth M. Johnson **Seattle Police Department**

Visualization of Crime Activity in 2D, 3D, and 4D

Portraying changes in crime levels assists police deployment by identifying successes, tracking displacement, and monitoring the effect of emphasis patrols. There are a variety of ways to graphically display these changes. This presentation catalogs the toolbox of methods that show crime trends, use of hot spots, or three-dimensional imagery, and dynamic images of crime distribution with animation. In the future, use of hot links to film clips and Web cameras will further expand the GIS toolbox. Examples of all the above tools will be displayed, and implications for the future will be discussed.

2:30 pm - 3:00 pm **Break**

3:00 pm - 4:30 pm **Concurrent Panels**

Spatial Technology Showcase Session *Hancock*

General Audience

Corrections, Probation, and Parole II *Stanbro*

General Audience

Moderator

Andrew L. Goldberg **National Institute of Justice**

Presenters

Frances Frick Burden **Pennsylvania State University**

Neighborhood Structural Determinants of Recidivism: A Multilevel Study of Parolees in Their Neighborhoods

GIS-based technologies have made it easier for researchers to identify specific neighborhood factors that mitigate or contribute to an individual's likelihood of recidivation. This study investigates the effect of neighborhood characteristics on a parolee's likelihood of recidivism, and particularly whether there are some "at risk" neighborhoods that increase a parolee's risk of rearrest. The key question is whether parolees who live in socially disorganized neighborhoods (e.g., high levels of residential mobility and a large number of criminal "hotspots" such as bars) are more likely to recidivate than parolees who are released into more socially organized neighborhoods.

George F. Rengert **Temple University**

Identifying the Spatial Pattern of Crime Within Large Buildings
Correctional officers, campus police, and security officers for retail and office buildings are concerned with where crime and disturbances are likely to occur within buildings. Since crime can be a rare occurrence, these patterns are not always obvious to the casual viewer, even when it is mapped within the building. For example, one crime may occur in each restroom which is located on a vertical plane within the building. In this presentation, methods of mapping crime and objectively identifying their spatial pattern are illustrated using actual data from a high rise building and high-definition GIS.

John E. Urbahns **City of Ft. Wayne**

But They All Come Back…How One Community Used GIS to Promote Their Reentry Initiative
(John E. Urbahns, Stan Pfulger)
The promotion of a reentry initiative to community leaders and the general public can make or break a well-designed program. In order to promote its ReEntry Court project, Allen County, Indiana, turned to GIS. Using GIS, officials demonstrated not just a concentration of the returning prisoner population but also a concentration of social factors that would hinder successful reintegration into society. With maps and the supportive data in hand, officials were able to turn skepticism into support.

Geographic Profiling and Forecasting II *Georgian*
Advanced

Moderator

Akiva Liberman **National Institute of Justice**

Presenters

Peter Branca **Melbourne University Private**

Geographic Profiling in Australia: An Examination of the Predictive Potential of Serial Armed Robberies in the Australian Environment
International research indicates that spatial crime patterns can be used to predict the likely home base of a serial offender (often referred to as "geographic profiling"). This presentation explores the predictive potential of analysed serial armed robberies in the Australian environment. The research data consists of 240 armed robbery offences, involving over 24 serial offenders. Utilizing MapInfo and CrimeStat software, journey-to-crime (JTC) and centrography prediction techniques were used to identify the likely home location of the serial offenders. The results give support to international research, which indicates that it is possible to reduce the area in which a serial offender is likely to live.

Michael Leitner **Louisiana State University**

Using Functional Distance Measures When Calibrating Journey-to-Crime Distance Decay Algorithms
(Michael Leitner, Josh Kent)
This research examines the value of temporal distance metrics for use in geographic profiling

techniques. By measuring the impedance values stored within a transportation data layer, traditional Euclidean distance metrics can be substituted with time-based functional distance values. Offender residency is estimated using three different distance decay algorithms. Results are analyzed to determine if the temporal metric can serve as a substitute for traditional Euclidian distances when estimating the likely residence of a localized serial offender. Additionally, the 'best' distance decay algorithm leading to the most 'accurate' geographic profile is identified.

Lorie Velarde **Garden Grove Police Department**

Applying Geographic Profiling to Property Crimes

Geographic profiling is an advanced crime analysis technique used in the last decade in cases of serial crime. Due to the expense of software and length of training involved, the tool was until recently used primarily by a few highly trained profilers in cases of violent crime and was limited to large police agencies. The Geographic Profiling Analyst program applies this tool to property crime and brings it within the reach of most police departments. The presenter participated in this program in May 2003 and has since been able to utilize this technique successfully in the department.

GIS Applications II (Systems for Sharing Data) *Clarendon*

General Audience

Moderator

Connor T. Fee **University of Virginia**

Presenters

Patricia Lankey **Lucas County Information Services**

Regional GIS for Homeland Security and Beyond

(Patricia Lankey, Leslie Rhegness)

This presentation will show how a county GIS for Homeland Security spurred the initiation of the use of GIS in many county agencies and the start of a regional, 21 county GIS. The presentation will focus on multi-agency involvement, homeland security, mapping for homeland security, and GIS applications.

Michael L. Thomas **U.S. Department of Defense**

National Guard Digital Mapping Server Portal: Embodying a "One-Stop" Portal Approach for Total GIS Needs

(Michael L. Thomas, Nick Faust, Melinda K. Higgins, Frank McCreedy, John Sample, Kevin Shaw, Rickey Thomas)

The National Guard Bureau Counterdrug Office has implemented a Digital Mapping Server (DMS) portal, embodying a "One-Stop" portal approach for total GIS needs. DMS supports various GIS requirements with open source mapping data and tools provided at no-cost to law enforcement, saving time, money, and effort.

Connor T. Fee **University of Virginia**

GRASP — A Geospatial Repository for Analysis and Safety Planning
(Connor T. Fee, Ryan K. Grammer)
The University of Virginia Systems and Information Engineering Department has been commissioned by the National Institute of Justice to develop the Geospatial Repository for Analysis and Safety Planning (GRASP). GRASP is a website that allows users to share spatial data instantaneously with other members of the GIS community. Once a user uploads data in any acceptable format, that data is automatically available to all other users in any format they choose. Registered users who are approved by the NIJ can access any available public data. The aim of GRASP is to have data contributors from 40 states in the next 3 years.

GIS for Public Safety II (Arson and Fire Investigation) *Arlington*

General Audience

Moderator

Paul E. Keating **City of Roseville Fire Department**

Presenters

Andrew R. Brumwell **West Midlands Police**

Mapping Arson, Reducing Crime, and Preventing Arsonists — Using GIS Within a Multi Agency Arson Taskforce
West Midlands Police and West Midlands Fire Service are joining together to form an Arson Taskforce, part of a national initiative to encourage police and fire services to work together, to share data and intelligence, and reduce arson-related incidents. There is however a "gulf of understanding" between the two organizations as to how incidents are recorded in the first place and a lack of understanding as to how GIS can assist working together to reduce arson and improve detection rates.

Donald R. Oliver **Wilson Fire/Rescue Services**

Increasing Our RESPONSE-Ability
The Fire Chief of Wilson, North Carolina, shares the experiences of the Wilson Fire/Rescue Services in implementing Geographic Information Systems (GIS) technology over the past four years. In this overview program, listeners will be exposed to the latest information for applying GIS technology to the fire service, including how to employ it for community risk assessment, arson, crime problem identification, and planning for homeland security. The presentation demonstrates practical tools, tips, and capabilities of GIS technology and gives examples of GIS software packages that can be used in deployment planning. Chief Oliver will also speak about forming partnerships in a community, including experiences with the Police Department and Information Technology Services that have improved the safety and quality of life in the Wilson community.

Paul E. Keating **City of Roseville Fire Department**

Roseville Fire Implements GIS to Streamline Planning for Emergency Response
The Roseville City Fire Department has implemented GIS technology to strategically plan

for growth and assess standards of coverage. Roseville is one of northern California's fastest growing cities, and GIS has been crucial in the city's station placement resource allocation study. The city fire department is currently conducting a review of its Standards of Coverage as part of the accreditation process; GIS is proving invaluable in assessing the areas of greatest risk and places where the resources are needed.

Local, Regional, and Federal Mapping Initiative II (HIDTA) *Berkeley*

General Audience

Moderator

Brett Chapman **National Institute of Justice**

Presenters

Philip Burkhart **National Drug Intelligence Center**

GIS Applications of National Drug Threat Survey Data

The U.S. Department of Justice National Drug Intelligence Center (NDIC) produces strategic domestic drug intelligence to support national policymakers and law enforcement officials. The National Drug Threat Survey (NDTS) serves as an instrument by which the NDIC surveys state and local law enforcement agencies in order to identify threats, trends, and patterns posed by the illicit drug trade. Data from the NDTS is used in a GIS to gain a greater understanding of the illicit drug threat.

Thomas Hayden **Pima County Sheriff's Department**

COBIJA Interdiction SitMap

This presentation provides an interactive situation map that graphically portrays the locations and supporting intelligence data for Southwest Border drug seizures, currency seizures, aircraft fades, border violence, and known drug seizures within Mexico. Currently the GIS-SITMAP is maintained daily throughout the year at the Arizona High Intensity Drug Trafficking Area (HIDTA) Intelligence Division. The SIT-MAP is the first comprehensive intelligence overview of the entire Southwest Border (growing nationally to include Canada) that operators, intelligence analysts, and decisionmakers are able to access electronically. The SIT-MAP is constantly updated as new seizure reports and other intelligence data is received at the Arizona HIDTA Intelligence Division. Users will be able to query selective information tailored to their unique requirements.

Andrew Newton **University of Liverpool**

On the Buses: An Evaluation of a Safer Travel Initiative

(Andrew Newton, S.D. Johnson, K.J. Bowers)

This paper reports the main findings of an evaluation of an intensive 4-week policing operation along a single bus corridor that was aimed at reducing the extent and associated fear of crime on buses. The evaluation adopts a mixture of qualitative evaluation techniques and demonstrates that the operation was successful in increasing officer arrest rates and in reducing crime levels for particular types of crime. A conceptual discussion is provided as to how to measure the effectiveness of an operation with no geographically predefined action area and to define the relationship between action areas and displacement or diffusion zones.

Spatial Analysis and Research II (Criminal Behavior) *Plaza Ballroom*

Intermediate

Moderator

Steven Rose **West Midlands Police Department**

Presenters

Gaston Pezzuchi **Buenos Aires Province Police Department**

Success in the Field – Crime Mapping and S.A.R.A. in the Buenos Aires Province of Argentina

(Gaston Pezzuchi, Jorge Ortiz, Marisa Paviskov)

After a series of community uproar events, the Buenos Aires Province Security System requested the Argentinean National Forces to provide officers in an attempt to stop the "crime rage" in the Conurbano Area (which is about 5000 square kilometers and has about 9,500,000 inhabitants). Using the well established Crime Mapping and Analysis Unit, law enforcement focused on particular areas and deployed different response strategies. These strategies involved the coordination of Federal and Provincial efforts, and monitoring and evaluation after actions were taken. A series of protocols were developed to measure the effect of the program, and for the first time in a long time, the agency was able to report, not only success, but also how it had been measured.

Caterina Gouvis Roman **The Urban Institute**

Routine Activities of Youth and Neighborhood Violence: Spatial Modeling of Place, Time, and Crime

This paper discusses how GIS and spatial analysis are used to model the relationship between the daily routine activities of youth and levels of violence, and provides an example of how these techniques can be applied to analytical studies examining risk of violence in places. Specifically, this paper highlights how time of day, week and year, can be incorporated into spatial analysis of crime patterns to further inform crime prevention. A model of opportunity factors is developed to predict the spatial and temporal relationship between violence, schools, youth hangouts, retail properties, and neighborhood (dis)organization across census blocks.

Steven Rose **West Midlands Police Department**

Criminal as Customers – Applying the Principles of Customer Relationship Management and the Use of Geodemographics to Policing

This paper applies Customer Relationship Management principles and the use of geodemographics to policing and community safety. The techniques used by companies world-wide to best manage their customer base and to target potential customers can be applied to a policing environment. Calculating expected crime rates for reporting areas through modeling customer behavior creates a more sophisticated benchmark to monitor performance. Applications for this are more intelligent performance monitoring and target setting, offender/victim management, and territory balancing.

5:00 pm - 6:30 pm **International Roundtable** ***Stanbro***

Moderator

John Markovic **Vera Institute of Justice**

Presenters

Ronald E. Wilson **University of Michigan/MAPS Program**

John Markovic **Vera Institute of Justice**

International Roundtable

Consistent with past conferences, and in consideration of advances in crime mapping in many developing countries, the M.A.P.S. program is hosting a roundtable on International Crime Mapping Issues. This roundtable will serve as a venue to network, discuss common concerns, and compare successes/challenges in crime mapping efforts that are being implemented in developing countries. While all interested parties are encouraged to attend, this roundtable will be of particular interest to conference attendees from developing countries. This is intended to an open-discussion forum, and attendee participation will be encouraged. Some of the topics that were relevant to that conference, and may be of interest to international attendees, included:

- Crime mapping issues that are unique to developing countries;
- The challenges of implementing crime mapping in emerging democracies;
- The benefits and limitations associated with highly-centralized police agencies;
- Developing partnerships between police, universities and non-governmental organizations (NGOs);
- Guarding against the potential of using crime mapping for oppressive purposes;
- Guarding against the potential of maps to reinforce stereotypes and ethnic/class conflict;
- Engaging citizens as participants in crime mapping; and
- The need for a crime mapping and analysis list-serv for non-English speaking participants.

Finally, this roundtable will provide examples of efforts in other countries to gauge the level and progress of crime mapping. Given that many participants of this round table get together only once a year, it is important to stay informed of progress in the interim. Such topics include:

- Surveys can be developed and reported;
- Coalitions or working groups between countries might be formed; and
- Writing of an international report on efforts by a country or group of countries.

This roundtable is intended to stimulate conversation and to further peer-to-peer information sharing, collaboration and the forming of mechanisms that is increasingly international in scope.

Friday, April 2, 2004

7:00 am - 4:30 pm **Registration** ***Mezzanine***

7:30 am - 4:00 pm **Vendor Exhibits** ***Mezzanine***

8:00 am - 9:30 am **Concurrent Panels**

Spatial Technology Showcase Session *Hancock*

General Audience

Data Sharing and Privacy Issues with GIS *Stanbro*

General Audience

Moderator

Douglas Hicks **Minneapolis Police Department**

Presenters

Michael Leitner **Louisiana State University**

Visualizing the Location of Confidential Crime Data

(Michael Leitner, Andrew Curtis)

This paper discusses spatial encoding strategies for confidential (personal) crime data that can be represented as points on a map (in a GIS). The research question is how to best geographically mask individual-level data so as to protect the confidentiality of the (point) location (e.g., the residence of a crime victim) and at the same time to preserve the essential visual characteristics of the original crime distribution. In the presentation, we will provide a review of the literature, outline the experimental design/methodology, and discuss the results of this research.

J. Andrew Ware **University of Glamorgan**

Forecasting and Mapping Crime: An Ethical Conundrum

(J. Andrew Ware, Jonathan Corcoran)

Accurate forecasting of the temporal-geography of crime (predicting where and when crime is likely to take place) can have immense benefits. If acted upon, accurate prediction should lead to effective prevention. The prediction of criminal activity often involves retrospection and this frequently relies on the use of information appertaining to past perpetrators and/or past victims. Often, however, the most salient of this information is subject to legal and ethical restriction on its use. Thus the ethical conundrum! While the presentation will draw on personal experience, it will provide an objective perspective of the ethical conundrum and suggest means for ameliorating its impact.

Douglas Hicks **Minneapolis Police Department**

Multi-Jurisdiction, Multi-Discipline Database Sharing in Law Enforcement: The New Information Paradigm

Law enforcement agencies build and have access to many information systems that allow officers to pull up information on a one-at-a-time query basis. These tools are very personnel intensive, and the resulting products can be a nightmare to cross-reference. The Minneapolis Police Department (MPD) has forged alliances with other law enforcement disciplines (courts, corrections, probation, etc.) to share databases. The MPD automatically produces and distributes products on a daily, weekly, or monthly basis integrating information from all the databases designed to meet the particular user needs. Many products are GIS-ready, allowing quick utility by minimally trained GIS users.

GIS Applications III (Advanced Systems) *Clarendon*

Advanced

Moderator

Joseph E. Johnson **University of South Carolina**

Presenters

Tim Burns **Department of Justice and Consumer Services**

Comprehensive Approach to County-Wide Public Safety Data Sharing and Mapping Partnerships

The Enforcer Geographic Information System is an enterprise, data-sharing initiative designed to coordinate mapping and analysis efforts between local public safety agencies. As a county-wide partnership, project participants have had to address a variety of issues that have impacted the system's development and direction. This workshop will focus on the structure and evolution of the Enforcer Project within Pinellas County, Florida, and the current status of project applications.

Carrissa Goldner **Bay Area Rapid Transit Police Department**

Bay Area Rapid Transit Police Department's System-Wide GIS Safety Solution

(Carissa Goldner, Kathy Dombrowski)

The presentation will focus upon the police department's cost-effective GIS solution to solve data collection, management, and dissemination problems with the current Dispatch and Records systems.

Joseph E. Johnson **University of South Carolina**

Extracting Meaningful Information from Spatial and Temporal Analysis

The Advanced Solutions Group at the University of South Carolina has developed and implemented statewide mapping for all critical emergency events as well as a state critical infrastructure information system (Java/Web interface with ArcInfo 8.3 against a SQL Server database). A separate secure counterterrorism event management system was just completed along with a complete statewide fire response management system. The team is now

working with SAS to develop methodologies for the automatic identification of significant data trends as information is spatially and temporally disaggregated. Potential integration of the past multi-agency criminal justice database is also being studied.

GIS for Public Safety III (Census Data Use) *Arlington*

General Audience

Moderator

Donald R. Dixon **California State University, Sacramento**

Presenters

Safa F. Egilmez **Santa Monica Police Department**

Evaluation of the Crime Rate Influencers using Multivariate Analysis and GIS for the Los Angeles County Sheriff's Department, Malibu/Lost Hills Station, and Santa Monica Police Department

This presentation will give an evaluation of multivariate analysis in combination with GIS analysis for studying the effect of certain crime-rate influencers on the jurisdictional crime rate, using census information. The audience will have an exposure to techniques that can be combined with GIS (crime mapping) in order to better understand crime patterns occurring in their jurisdictions.

John Markovic **Vera Institute of Justice**

Using Census Data to Identify, Map, Assess, and Enhance Community Outreach

(John Markovic, Anita Khashu)

This presentation will discuss mapping efforts in two projects currently underway at the Vera Institute of Justice. The first project, in partnership with the New York Police Department (NYPD), focuses on identification and assessment of immigrant population groups in NYPD's ongoing efforts to enhance community outreach. In partnership with the Arab American Law Enforcement Association, the second project, Improving Cooperation Between Law Enforcement and Arab-American Communities, is assessing police-community relations in 20 police departments with high concentrations of Arab immigrant and Arab-American populations. The presentation will emphasize how GIS was used in defining outreach areas and in defining/selecting sample sites.

Donald R. Dixon **California State University, Sacramento**

Family Violence in Dallas, Texas: A GIS-Based Assessment

This paper utilizes a multi-year data set of family violence offenses to illustrate how GIS can be effectively utilized to better understand and, therefore, appropriately address this significant problem. The data set covers a 5-year period and includes over 100,000 offenses. Using ArcView GIS we identified hot spots of family violence in Dallas, Texas. Researchers conducted a social-ecological analysis of the hot spots. They then conducted a citywide analysis of the problem, utilizing statistical models to determine the correlates of family violence in Dallas between 1997 and 2001.

Local, Regional, and Federal Mapping Initiative III (COMPASS/SACSI) *Berkeley*

General Audience

Moderator

Brett Chapman — **National Institute of Justice**

Presenters

Jim B. Pingel — **Wisconsin Sentencing Commission**

GIS as a Tool for Collaboration: Highlights from the Milwaukee COMPASS Project
(Jim B. Pingel, Nancy Olson)
In 2001, Milwaukee, Wisconsin, joined Seattle as the second grant award under the COMPASS (Community Mapping, Planning and Analysis for Safety Strategies) program. Milwaukee's federal grant ended in 2003, but the project has institutionalized both inter-agency data sharing and an increased reliance on GIS and data-driven problem solving throughout the law enforcement community. This presentation will recap the Milwaukee COMPASS project by highlighting three examples of collaboration between law enforcement and the broader community, in which GIS played a central role.

Gerard Sidorowicz — **City of Seattle**

Seattle COMPASS Experience: Using GIS to Support Community Building
NIJ's COMPASS project was first implemented in the city of Seattle. While the project was intended to address public safety problems, and continues to do so, it set the foundation for using geographic modeling for developing policies that support youth and families in the city. The presentation will discuss this development using examples of products that support neighborhoods through community building.

Julie Wartell — **San Diego District Attorney's Office**

COMPASS: Using GIS to Identify and Understand Community Safety Issues
This session will highlight one of the three COMPASS (Community Mapping, Planning and Analysis for Safety Strategies) initiative sites – East Valley (CA). The focus of COMPASS includes collaboration among government agencies and community interests, a comprehensive data infrastructure, and strategic analysis. Experiences regarding GIS-based tools, data sharing, and analytical efforts will be presented. The session will include a demonstration of some of the tools and products that have resulted from this project, particularly emphasizing the use of GIS to help collaborative groups identify and solve public safety problems.

Research and Theory Development *Georgian*

Advanced

Moderator

David Ashby — **University College, London**

Presenters

Spencer Chainey **University College, London**

Exploring the Use of Geographic Information for Identifying Breakdowns in Community Cohesion to Support Effective Police Responses

In recent years the United Kingdom has been witness to rising incidents of racial, political and economic tensions, alongside increasing problems of certain types of crime. This has led the police to begin to re-assess their responses to criminal activity, particularly in terms of how their role can better prevent crime and pre-empt community fragmentation. This paper presents the first major step in the creation of new national guidance that helps the police monitor levels of community cohesion through the use of geographic indicators. This has involved assessing appropriate geographic datasets and practical processes that support police responses to crime prevention against assessments of emerging tensions.

Xiaowen Yang **University of Florida**

Identifying the Effects of Physical Environment Features on Burglary and Controlling Socio-Economic Variables

(Xiaowen Yang, Richard Schneider)

This study seeks to demonstrate how different environmental features can affect the occurrences of burglary with controls for specific social-economic variables. The intent is (1) to identify specific features of the physical environment that may contribute to or deter burglary and (2) to introduce a reliable and objective method for identifying the impact of built environment features on the three types of burglary-residential, conveyance, and business.

David Ashby **University College, London**

Geodemographics for Policing: A New Approach to the Analysis of Geographic Variations in Crime and Policing Performance

Public service delivery is now the primary focus of domestic policy debate in the United Kingdom. Policing is one emergent subject of increasing media attention and public interest, particularly with regard to policing at the neighborhood and community levels. This paper reports on the development of new methodologies appropriate for both the analysis of crime patterns at a local level and the assessment of policing performance within different neighborhood types. New geodemographic classifications are used to profile the crime and policing environments of different neighborhoods, and hence, develop and deploy appropriate and efficient policing strategies at the local level.

Spatial Analysis and Research III (Crime and Neighborhoods) *Plaza Ballroom Intermediate*

Moderator

Noah J. Fritz **National Law Enforcement and Corrections Technology Center - Rocky Mountain**

Presenters

Rebecca A. Colwell **University of Minnesota Geography Department**
MASTERS LEVEL STUDENT PAPER COMPETITION WINNER

Measuring Quality of Life with GIS: Moving Beyond Part I Crime
In law enforcement, accurate portrayals of the quality of life in residential communities are important for police resource allocation as well as for strategic and tactical policing practices. Standard conventions used by police agencies for determining quality of life include producing tables, graphs, and maps depicting Part I offenses. Through geographic analysis of incident data from the Lincoln, Nebraska, Police Department, this presentation addresses alternative methods for determining the quality of life in communities. A quality of life index that identifies crimes, events, and locations that may provide a clearer indication of neighborhood health will be presented. The benefits of using these indicators are, among other things, better internal communication and more precise distribution of police resources.

Dan Lockwood **Savannah State University**

Mapping Violent Crime in Savannah's Neighborhoods, 1993-1997: Social Disadvantage, Land Use, and Violent Crimes Reported to the Police
This paper presents an area study on the hypotheses that violent crime is linked to either a subculture of violence, social disadvantage, or land uses such as rental property, retail/office/commercial, or public/institutional.

Noah J. Fritz **National Law Enforcement and Corrections Technology Center - Rocky Mountain**

Ghetto, Where Race and Poverty Meet Crime
Dr. Martin Luther King articulated a dream of a better society, envisioned 40 years ago – perhaps, in contrast, more of a nightmare today. In the "corners" of inner city impoverished neighborhoods, symbolically labeled as "Ghetto," and in the prisons, poverty and racism remain to be felt. Dr. King probably never imagined that two million U.S. citizens (49 percent of whom are black) would end up behind bars. In 2001, with a heartrending number of prisoners incarcerated, blacks comprise 62.7 percent, and whites 36.7 percent, of all drug offenders admitted to state prison. The American Heritage Dictionary defines ghetto as "a section of a city occupied by a minority group who live there especially because of social, economic, or legal pressure." Although blatantly bigoted laws of slavery and "separate but equal" rules are gone, post-modern racism is perpetuated in ghettos. Social demographics reflect a great disparity between people of color and Caucasians in U.S. statistics. This research employs GIS to identify and analyze high crime neighborhoods (i.e., hotspots) in a large metropolitan "ghetto." It questions interpretations of crime and delinquency by locals in contrast to "street-level bureaucrats." In what form or format does crime and delinquency, as social constructs, present themselves; and what are the temporal and spatial dimensions of crime? What are the social and environmental factors making certain neighborhoods more prone to it than others? How does the community see and experience the framework of "community policing?" Finally, what other social factors help the understanding of particular quality-of-life issues in ghettos?

9:30 am - 10:00 am	**Break**

10:00 am - 11:30 am **Concurrent Panels**

Spatial Technology Showcase Session *Hancock*

General Audience

GIS Applications IV (Systems Development) *Clarendon*

Intermediate

Moderator

Joseph E. Pascarella **New York Police Department**

Presenters

Erich Seamon **City and County of San Francisco**

Fighting Crime in the 21st Century: Implementation of San Francisco's First Real-Time Geospatial Criminal Analysis System, CrimeMAPS

(Erich Seamon, Tom Bruton)

The city and county of San Francisco's Police Department (SFPD) has recently implemented a real-time criminal analysis and mapping system, titled CrimeMAPS. Developed as a program to facilitate accountability thru technology, CrimeMAPS uses complex systems (citrix technology, storage area networks, clustered, high availability servers), data processes, and advanced geographic information systems (GIS) to compile a variety of police-related incidents into usable, secure map-related applications. In addition to being used by SFPD personnel on a daily basis, CrimeMAPS also provides the public with web-based applications for crime analysis and review. This presentation will review the technology and data methods required to build this world-class system, and it will address the impact CrimeMAPS has had on operational activities in the SFPD.

Joey Yi Zhou **Kent State University**

Internet Mapping Application for Police Problem Solving

(Joey Yi Zhou, Eric Jefferis)

The goal of this project is to develop an Internet-based mapping application that will assist police problem solving – tentatively called the Internet Mapping Application for Police Problem Solving (iMAPPS). Specifically, the iMAPPS system will inform the Scanning, Analysis, and Assessment phases of the SARA model and will be transferable to other law enforcement agencies as it will be based primarily on a geographically enhanced NIBRS data structure.

Joseph E. Pascarella **New York Police Department**

Deep Infrastructure Base Maps for Public Safety and Homeland Security: A Case Study of the New York City GIS Utility

The New York City (NYC) GIS Utility, a central repository of mapping data and support

services for government agencies, was established in January 2000 to streamline operations and produce timely mapping information for basic operational needs and critical incidents, such as catastrophic terror attacks and natural disasters. The events and aftermath of September 11, 2001 highlighted the need for this information, particularly to assess the vulnerability of vital structures such as buildings and bridge and tunnel crossings and infrastructure such as telecommunications and the water supply viaducts. This paper examines the issues encountered in constructing the NYC GIS Utility, which is slated for completion in 2004.

GIS for Policy and Program Evaluation I *Arlington*

Beginning

Moderator

Christopher D. Maxwell **Michigan State University**

Presenters

Scott S. Keir **Multnomah County Department of Community Justice**

Using Community Justice Data and GIS Mapping to Support Decision-Making in Multnomah County, Oregon

(Scott S. Keir, Andrea Westersund)

This presentation will demonstrate how the Multnomah County (Portland, Oregon) Department of Community Justice (DCJ) combines criminal justice data with GIS mapping techniques to assist departmental decisionmaking. By working closely with the county's GIS Unit, the Research and Evaluation Unit of DCJ has been able to provide DCJ decisionmakers with GIS maps of Multnomah County that can play a key role in locating services for the youth and adults in the justice system and in designing culturally competent services for juveniles. Examples of how GIS mapping has been used by DCJ management and staff will be presented and discussed.

Michael J. Kollmeyer **City of Wichita**

Beat Redistricting for the City of Wichita

During the fall of 2002, the Wichita Police Department required beat and bureau boundaries redrawn because of population change from migration and annexations, unbalanced call load, and unbalanced total areas. City of Wichita GIS was utilized to research and develop an application to expedite the redistricting process and provide an interactive environment for Captains and Deputy Chiefs to make redistricting decisions on the fly. Utilizing the redistricting tool in ESRI's ArcView GIS, the process was completed in two weeks, a significant improvement over the 6-month process 4 years prior.

Christopher D. Maxwell **Michigan State University**

Using GIS to Experimentally Evaluate the Impact of "Fixing Broken Windows" on Neighborhood Safety, Social, and Physical Conditions

(Christopher D. Maxwell, John McCluskey)

This presentation provides baseline information about the design and impact of a program developed through a research-practitioner partnership that is experimentally testing whether

"Fixing Broken Windows" improves neighborhood safety, social, and physical conditions. The presentation will demonstrate how GIS was used to design, manage, and analyze this experimental program. Within this context, a particular focus is placed upon how GIS facilitated the integration of databases gathered from participating agencies to measure decay, displacement, and diffusion of benefits. The presentation will also provide baseline information about the pretests and initial impact of this program on "tagged" houses.

GIS for Public Safety IV (Problem Solving) *Stanbro*

Intermediate

Moderator

Safa F. Egilmez **Santa Monica Police Department**

Presenters

John W. Conte **San Antonio Police Department**

On the Hunter's Trail: The I-10 Kidnapper and GIS

During the spring of 2001, two children were kidnapped from their homes in two separate incidents. Each of the girls was returned to her parents, each with descriptions of the hunting lodge in which they were imprisoned. Investigators sought to use the power of GIS to bring these descriptors together—a gas meter, a radio tower, and several others landmarks—to guide a statewide search to find the offender before another victim was taken.

Peter K.B. St. Jean **State University of New York at Buffalo**

Systematic Social Observation for Public Safety: Combining GIS, Aerial Photographs, and Video Mapping Systems (VMS) for Neighborhood Crime Analyses and Interventions

This presentation advances an approach to combine GIS analyses, aerial photographs, and video footages of street blocks for the purposes of better understanding causes, consequences, and interventions against neighborhood crime. The data are derived from the Buffalo Area Neighborhood Study (BANS) and ongoing research on the South Side of Chicago, which uses multiple methods for examining the relationships between neighborhood contents, neighborhood social organization, and neighborhood outcomes such as crime, deviance, and social disorder. The methodological protocols are useful to both scholars and practitioners alike. Implications will be discussed in detail.

Safa F. Egilmez **Santa Monica Police Department**

New Approach for the Graffiti and Accompanying Problems Utilizing GPS and Wireless Enabled Digital Cameras in Connection with GIS

(Safa F. Egilmez, Roberta Talbot)

In this paper, the new approach developed to overcome graffiti and accompanying problems in the city of Santa Monica will be presented. GPS and wireless communication-enabled digital cameras were utilized to capture and annotate the pictures and send them to a central server. The images and the accompanying information were then automatically transferred to the GIS and analyzed by Crime Analysis Department personnel as well as other city departments. A more efficient problem-solving and resource-allocation strategy was developed using this information.

Local, Regional, and Federal Mapping Initiative IV (Federal Agencies) *Berkeley*

General Audience

Moderator

Jason R. Dalton — **University of Virginia**

Presenters

Joseph Bertoni — **Bureau of Alcohol, Tobacco, Firearms and Explosives**

The Bomb Arson Tracking System and Its Incorporation of GIS Technology

The Bomb Arson Tracking System (BATS) is a secure Internet based information management and sharing tool developed in concert with state and local law enforcement agencies to better facilitate the sharing information concerning arson and bombings locally, regionally, and nationally. At the center of the BATS application is an imbedded GIS functionality.

Ed Freeborn — **National Law Enforcement and Corrections Technology Center - Northeast**

Using GIS to Support Integrated Border Enforcement Teams (IBET)

GIS is being integrated into the Central St. Lawrence Valley Integrated Border Enforcement Team (CSLV IBET) to enhance interagency coordination and promote officer safety. Lessons-learned with the CSLV IBET will be applied to other IBETs. The visual and practical impact of GIS and GIS data sharing may facilitate the development of a true cross-border crime mapping system.

Jason R. Dalton — **University of Virginia**

Using GIS for Assessment of Airport Security Threat from Man Portable Air Defense Systems (MANPADS)

A threat with which many critical infrastructure and homeland security experts are increasingly concerned is that of a shoulder-fired rocket targeting a commercial airliner during takeoff or landing. This problem has been studied from the perspective of target detection, deployment of counter-measures, and defensive ballistics. This paper shows that a cost-effective and accurate means of defending against such an attack is the use of spatial environment analysis using geographic information systems (GIS). These systems create a detailed 3D computer model of the region around the airport. From this model, the locations from which a shoulder-fired anti-aircraft rocket could be launched can be derived. This paper shows that taking preventative preplanning measures to secure the areas from which a rocket can be fired is more effective and less expensive than airborne defense measures.

Offender Travel Behavior I *Georgian*

Intermediate

Moderator

James L. LeBeau — **Southern Illinois University at Carbondale**

Presenters

Erick E. Barnes **University of Detroit Mercy**

Never Cry Wolf, Mapping Out Serial Robbery in Detroit, Michigan
Robbery is crime that has a unique distinction; it is both a crime against property and a crime against persons. Therefore, those who commit robbery especially serial robbery share a unique type of criminal logic. This paper discusses the role that GIS crime mapping has in identifying the mobility patterns, victimology, and investigation of serial robbers. Several case studies from Detroit will be discussed.

Elizabeth R. Groff **Institute for Law and Justice**

Disaggregating the Journey to Homicide
This research examines the distance traveled by offenders and victims to their involvement in a homicide. Key research topics include (1) the differences in distance traveled by offenders and victims, by homicide motive; (2) the differences in distance traveled by offenders and victims, by sex and age; and (3) the relationship between street distance and Euclidean distances, by type of homicide. Findings indicate that travel behavior differs between victims and offenders. Travel distance to event location varies according to the demographic characteristics of the offender and victim. Related to the method of measurement, street distance is always longer than Euclidean distance and there is a strong and consistent linear relationship that permits prediction of street distance from Euclidean distance. This research will assist police investigations (e.g., aid in refining suspect lists) and homicide prevention (e.g., by developing richer information about activity spaces of offenders and victims).

James L. LeBeau **Southern Illinois University at Carbondale**

The Routine Arrest Space of Drug Offenders
Using a database of 32,188 drug arrestees in Charlotte-Mecklenburg, North Carolina, during 1997-2002, this presentation examines the spatial patterns associated with repeated arrests of the same individuals. The space containing the offender's residence(s) and the locations of his/her arrests constitutes the routine arrest space. The size and compactness of the arrest spaces will be compared with the race, age, and gender of the offenders and with the types and frequencies of their offenses. In addition, their arrest spaces will be examined in relation to the spatial proximity of the activities of other offenders arrested for similar or different types of drug offenses.

Spatial Analysis and Research IV (Auto-Theft) *Plaza Ballroom*

Intermediate

Moderator

Rachel L. Boba **Florida Atlantic University**

Presenters

H. Sebnem Düzgün **Middle East Technical University**

An Integrated Approach for Mapping and Spatial Analysis of Auto Theft and Theft From Auto Criminal Incidents

(H. Sebnem Düzgün, Aygün Erdogan)

An integrated approach for mapping and analyzing spatial distribution of Auto Theft (AT) and Theft from Auto (TFA) criminal incidents at the intraurban level was proposed. The proposed approach was implemented to AT and TFA incidents for the year 2000 in the City of Konya. The spatial pattern and the distribution of two data sets were compared to find whether the different but somehow related incidents are committed by offenders having similar 'activity spaces' in Konya Metropolitan Area. This integrated approach consists of four stages: data collection, visualization, exploration, and modeling.

Ronald Hughes **University of North Carolina at Chapel Hill**

GIS and GPS Applications Within a Commercial Motor Vehicle Enforcement Environment: The North Carolina Experience

This presentation describes North Carolina's experience in implementing a Geographic Information System (GIS) approach to commercial vehicle enforcement efforts directed toward the reduction of fatal truck-involved crashes. GIS is used to focus on the spatial attributes of enforcement activity as well as the spatial attributes of vehicle crashes. A 13-county 'pilot' study used GPS and in-vehicle GPS event-capture capabilities to address dynamic enforcement 'presence' as well as to integrate data on the spatial attributes of enforcement and the spatial attributes of crashes. North Carolina's strategic plan for the integration of GIS and GPS within a wireless, mobile computing environment will also be discussed.

Rachel L. Boba **Florida Atlantic University**

Auto Theft: Geographic Analysis of Risk

This presentation will highlight the results of an analysis of auto theft risk as well as provide guidelines for local-level analysts to conduct this analysis themselves. This analysis is being conducted through work on the National Institute of Justice funded project East Valley COMPASS (Community Mapping, Planning, and Analysis for Safety Strategies). Data from Redlands, California, is used to examine geographic and other variables and their ability to predict levels of auto thefts by block group.

11:45 am - 1:15 pm **Luncheon and Keynote Speaker** ***Imperial Ballroom***

Keynote Speaker

Tom Casady **Chief of Police, Lincoln Police Department**

The Future of COMPSTAT

1:30 pm - 3:00 pm **Concurrent Panels**

Spatial Technology Showcase Session *Hancock*

General Audience

GIS Applications V (Integrated Systems) *Clarendon*

General Audience

Moderator

Michael O'Shea **National Institute of Justice**

Presenters

Mark Dougherty **Regional Justice Information Service**

Building a Multi-Jurisdictional Law Enforcement Data Warehouse

(Mark Dougherty, Paul Trudt)

The St. Louis County Police Department and the Regional Justice Information Service (REJIS) have established a comprehensive multi-jurisdictional law enforcement information data warehouse (MATRIX) that actively serves over 40 local, county, and federal law enforcement agencies in the St. Louis area. MATRIX allows police agencies to link people and events from different information platforms and to reveal spatial and temporal patterns in near-real time while also reducing the time agencies spend chasing the "paper trail" on individual suspects and/or crime events.

Hsiu-Hua Liao **St. Louis County Police Department**

Utilizing Value-Added Warehouse Data with GIS-Enabled Applications

(Hsiu-Hua Liao, Paul Trudt)

RAMS and LYNX are two different yet integrated applications used to access the value-added data processed in the new St. Louis regional MATRIX warehouse. RAMS is a desktop application that allows users to map crime events, apply spatial filters, and create a short-list of potential suspects based on a given suspect's past locations and criminal activity. LYNX is a browser-based application that provides detailed original source documents and summary data collected from multiple platforms on individual suspects. Both applications are "geo-enabled" and use mapping components to provide the spatial picture of persons and/or events.

Richard Rosenfeld **University of Missouri – St. Louis**

Assessing Patterns in Crime Over Space and Time Using the St. Louis Regional Data Warehouse (MATRIX)

(Richard Rosenfeld, Robert Fornango)

The St. Louis regional MATRIX warehouse supports sophisticated and timely reports on aggregate changes over space and time in crime events. This presentation illustrates the use of the MATRIX warehouse for such reports by tracking spatial and temporal changes in crime events within and across selected municipalities in the St. Louis, Missouri region. Presenters demonstrate the development and application of multiple maps for visualizing

spatial and temporal change in selected crime indicators and using statistical tools for evaluating the extent and pattern of change. Speakers then provide a model crime report, suitable for policy analysis, summarizing the resulting crime patterns.

GIS for Policy and Program Evaluation II *Stanbro*

Intermediate

Moderator

Angela Moore Parmley **National Institute of Justice**

Presenters

James W. Meeker **University of California, Irvine**

GIS, a Tool for Analyzing Data Across the Justice System

Geographic Information System (GIS) analysis has become a powerful tool for law enforcement agencies and researchers. However, other areas of the justice system are just beginning to explore the usefulness of GIS. This presentation focuses on several case studies that show how other justice system agencies could adopt or develop GIS tools for analysis. These examples include a potential application involving a police department and city attorney in civil gang abatement, cross-jurisdictional cooperation among various police departments in a COMPASS project, evaluation of legal service delivery models for civil justice, and an ongoing project with Legal Services Corporation OIG to explore GIS analysis.

Bryan J. Vila **National Institute of Justice**

GIS-Based Approaches to Addressing Street Gang Crime

(Bryan J. Vila, James W. Meeker)

This talk reviews GIS-based approaches developed and used by the University of California, Irvine (UCI) Focused Research Group on Orange County street gangs during the past decade. GIS provides an excellent toolkit for measuring gang crime, evaluating the impact of counter-gang strategies, and helping to enlist community resources. GIS is valuable for theory development and testing because it can explore complex causal issues about the nature and distribution of crime. As a practical tool it enables communities to combat gangs with empirically driven civil abatement proceedings. Moreover, properly prepared maps effectively communicate sophisticated analyses to policy makers, practitioners, and the general public.

Ronald E. Wilson **University of Michigan/MAPS Program**

Targeting Violent Crime in Small Communities: A Spatial Analysis

(Ronald E. Wilson, Ronald S. Everett)

This research examines the impact of a violent crime intervention program, Strategic Approaches for Community Safety Initiative (SACSI), which was implemented in small public housing communities in the City of Wilmington, North Carolina. This study uses buffer analysis, t-tests, and kernel density smoothing to examine the impact of the policy, noting that the policy had mixed effects based on type of crime. Further, geographically weighted regression will be used to explain the causes for the continuing violent crime problem.

GIS for Public Safety V (Mapping Perception) *Arlington*

General Audience

Moderator

Elizabeth R. Groff **Institute for Law and Justice**

Presenters

Matthew J. Giblin **York College of Pennsylvania**

Mapping Local Victimization Survey Data: Problems and Prospects

Police agencies often use community surveys in order to gather information about neighborhood crime and citizen perceptions of the neighborhood, city, and police. This paper uses data from the 2002 Anchorage Adult Criminal Victimization Survey to show the problems and prospects of mapping information about community issues to illustrate the spatial distribution of victimization and the spatial variation in citizen perceptions. The emphasis is on the potential benefits of community surveys such as providing agencies with a better understanding of their jurisdictions and the difficulties and solutions inherent in the process (e.g., privacy concerns, geocoding problems).

Derek J. Paulsen **Eastern Kentucky University**

Falling on Deaf Eyes: Assessing the Use of Crime Maps by Patrol Officers

An increasingly popular strategy within community oriented and problem oriented policing is to provide patrol officers with crime analysis information in the form of crime maps. The strategy is designed to encourage officers to use maps to determine problem areas within their beats and to modify their patrol strategies accordingly. Despite the promise of crime maps and GIS in general, no research has evaluated the use of crime maps by patrol officers. This paper assesses the effects of crime maps on officers' perceptions of crime patterns and their subsequent patrol activities. In addition, the presentation discusses general problems associated with the implementation and use of crime mapping.

Elizabeth R. Groff **Institute for Law and Justice**

Do Maps Increase Fear of Crime? A Randomized Experiment in Redlands, California

(Elizabeth R. Groff, Penny Beatty, Heather Couture, Heather Fogg, Brook Kearley)

Although the dissemination of crime information is intended to benefit community members, there is a lack of empirical evidence demonstrating the effects of crime mapping on citizen perceptions and fear of crime. This experiment investigates the effect of two popular types of crime maps, graduated symbol and density maps, on citizen fear of crime in comparison to the traditional table format of crime statistic reporting. The study findings indicate that of the three formats tested, graduated symbol maps should be considered the preferred method for sharing crime information with the public without unduly increasing citizen fear of crime.

Local, Regional, and Federal Mapping Initiative V (PSN/SACSI) *Berkeley*

General Audience

Moderator

Lois Felson Mock — **National Institute of Justice**

Presenters

Anthony A. Braga — **Harvard University**

Mapping Illegal Gun Markets: National, Regional, and Local Patterns
(Anthony A. Braga, Glenn L. Pierce, Alan Saiz)
Gun trafficking indicators can vary widely based on the level of geographic aggregation examined. The sources of illegal guns are importantly influenced by variations in gun ownership levels, state and local gun laws, and law enforcement policy and programs. In this presentation, researchers examine variance in gun trafficking indicators at the national, regional, and local levels. The discussion also presents preliminary findings for a National Institute of Justice-funded project to disrupt illegal markets operating in Los Angeles, California. Purchasers, possessor, and neighborhood-level indicators are mapped to yield insights on the dynamics of illegal gun transfers resulting in crime gun recoveries in the South (Central) area of Los Angeles. The implications of these suspicious purchase and sales patterns for supply-side interventions are discussed.

Tim Bynum — **Michigan State University**

Use of Mapping for Designing Project Safe Neighborhood Interventions
One of the principles of Project Safe Neighborhoods is that gun violence can be more effectively addressed through a concentration of efforts on the most serious problems. In many jurisdictions, interventions to reduce gun violence have been geographically based. Crime mapping has proved to be a useful tool for these districts in identifying areas in which to locate such interventions. This presentation will use examples from Detroit and other jurisdictions in discussing how the use of mapping was incorporated with other analysis techniques to identify fruitful locations for gun violence reduction initiatives.

George Tita — **University of California, Irvine**

Using GIS to Examine Local Gun Markets
Using data obtained by the Southern California Gun Tracing Center, this presentation focuses on how GIS is being used in a problem-solving approach aimed at disrupting local gun markets. The study area is comprised of the 77th Area of the Los Angeles Police Department in South Los Angeles. By examining the joint spatial distribution of where recovered crime guns were first purchased, where the last known legal purchaser resided, and where the possessor of the gun resided, one can begin to determine if guns are being trafficked through "point sources" or "diffuse sources." Analysis suggests that these crime guns are not emanating from concentrated point sources but rather from diffuse sources such as theft and straw purchasers.

Offender Travel Behavior II (A Metropolitan Crime Travel Demand Model - Part I) *Georgian*

Advanced

Moderator

Ned Levine **Ned Levine & Associates**

Presenters

Richard Block **Loyola University Chicago**

Modeling Metropolitan Criminal Travel Behavior

Testing of the model utilizing robbery incidents for 1997 and 1998 in the city of Chicago will be discussed. In this presentation, the journey to crime for both victims and offenders will be described and modeled, and predicted across the city's Traffic Analysis Zones. The first stage will describe and model origins (home addresses of victims and offenders) and destinations (incidents). Victim origins and incident destinations with known and unknown offenders will be analyzed separately. Incidents that occur at or very close to the victim's or offender's home will be analyzed separately from those that occurred further away. Modeling will incorporate the *CrimeStat III* crime travel demand model. Travel patterns will then be modeled for 6,918 victims and 9,067 offenders who traveled to another traffic zone before becoming involved in a robbery. Actual crime trips will be compared to predicted trips using the technique described in the first presentation.

Dan Helms **National Law Enforcement and Corrections Technology Center - Rocky Mountain**

Modeling Metropolitan Criminal Travel Behavior

The Crime Travel Demand Model was applied to the greater Las Vegas metropolitan area. Crime data covering three years of various types of activity have been compared to the model, and resulting crime trip forecasting results obtained. The crime trips themselves will be examined to see what they may reveal about the movement of offenders around this large, southwestern metropolis, and how these patterns may differ in directionality, distance, and frequency with those of other cities. The results of forecast crime trips from a base year will be compared with actual crime trip information from the following year to see if the predictive power of this model seems likely to hold promise for improved strategic forecasting of criminal behavior. How this information could be applied in a law enforcement context to actually help ameliorate crime will be considered. Finally, ways in which this model could be applied to macro-level crime trip problems, for example, the transportation of international narcotics shipments, the movement of weapons and criminals involved in international terrorism, or the growth of transnational criminal organizations, will be discussed.

Ned Levine **Ned Levine & Associates**

Modeling Metropolitan Criminal Travel Behavior

This session will present the theoretical model and will describe the development of a crime travel demand module in the new version of *CrimeStat III*. There are four sections to the module. First, there is trip generation that allows the modeling of crime origins and crime

destinations by zone. Poisson and Ordinary Least Squares regression models have been implemented in this section. Second, there is a trip distribution section that models crime trips from each origin zone to each destination zone. The section also allows the calculation of actual crime trips using observed data (e.g., arrest records) and the comparison to the modeled trips using trip length distribution. Third, there is a modal split section that allows the predicted zone-to-zone trips to be split between different travel modes if sufficient data exist or if reasonable accessibility functions can be estimated. Finally, there is a network assignment section that assigns the predicted trips to a likely route on a network. The model can be used for prediction as well as for testing differential policy effects.

Spatial Analysis and Research V (Journey to/from Crime) *Plaza Ballroom*

Advanced

Moderator

Karen L. Hayslett-McCall **University of Texas at Dallas**

Presenters

Jared Hewko **Edmonton Police Service**

Catching the 'Cook': Using Journey-to-Crime Estimation to Analyze the Shopping Behavior of Methamphetamine Producers

The production of methamphetamine poses a serious threat to public safety. Large-scale methamphetamine labs are often set up in warehouses. Unless police catch the producer (s) on site, it may be difficult to identify and locate the responsible individuals. This paper demonstrates the use of journey-to-crime estimation methods to model the shopping behavior of methamphetamine producers. Results indicate that such methods can aid in identifying the primary activity nodes (e.g., residence) of methamphetamine producers.

Yongmei Lu **Texas State University - San Marcos**

Journey-After-Crime: How Far and to Which Direction Do They Go?

This presentation extends the investigation of criminals' travel behavior from journey-to-crime to journey-after-crime. Geographic Information Systems (GIS) and spatial statistics methods are used to examine the spatial relationship between offense locations and crime-related locations. Analyses are conducted on criminals' journeys after auto theft in the city of Buffalo, New York. Results show that auto thieves' trips from vehicle theft locations to the corresponding vehicle recovery locations are local in nature. The travel distances are significantly shorter than randomly simulated trips, and the travel directions are biased from random travel directions as well.

Karen L. Hayslett-McCall **University of Texas at Dallas**

How Far Are They Willing To Go? An In-Depth Examination of the Journey-to-Crime

Law enforcement personnel and researchers have long been fascinated by an offender's "journey-to-crime." Using GIS and spatial analysis technologies, researchers examine differences between offenders of various ages (including juveniles), ethnicities, gender, and the location of the city from which the offender begins his or her journey. In addition, each

type of crime will be examined to determine if differences exist between and across both Part I and Part II offenses. This research is based on five years of calls-for-service data from a large urban police department.

3:00 pm - 3:30 pm **Break**

3:30 pm - 5:00 pm **Concurrent Panels**

Spatial Technology Showcase Session *Hancock*

General Audience

GIS, Crime, and Community Organizations *Clarendon*

General Audience

Moderator

Caterina Gouvis Roman **The Urban Institute**

Presenters

Brad Baker **Bishop Dunne High School**

Public Safety and the K-12 Education Partnership

This session will showcase a successful partnership between a Dallas High School and various police and government agencies. In addition, software and curriculum will be provided to help any police force or agency update their outreach program to reach this very important population that will someday control the future. Topics include: Robbery Task Force, Search and Rescue Mobile Command Post, Serial Burglary, Monthly Hotspot Maps, ArcVoyager CD (Software), Community Atlas Project, ArcLessons, GIS Day.

Tom Rich **Abt Associates Inc.**

Mapping and Incident Analysis in Elementary and Secondary Schools

The National Institute of Justice provided funding to Abt Associates to develop and disseminate a software application for supporting crime prevention and problem solving efforts in elementary and secondary schools. The application, entitled the School Crime Operations Package (School COP), enables school safety officers or school administrators to enter, maintain, analyze, and map school rule violations and crimes occurring in and around schools. This presentation will provide an overview of School COP, describe the approach used to map incidents within schools, and discuss the results of an evaluation of the application.

Caterina Gouvis Roman **The Urban Institute**

Theory and Practice: Assessing the Capacity of Community Organizations and Institutions

As evidence of the importance of the neighborhood environment for the well being and safety of residents continues to mount, it becomes increasingly important to provide communities with valid measures of community capacity and social capital that can be

collected inexpensively and repeatedly over time by residents and community agencies. The presentation will discuss the development of new capacity measures and, in particular, the theory being tested and how GIS was used to define key variables. The presentation will highlight the utility of GIS measurement for community organizations and the procedures that will enable local organizations to analyze the information for use in local planning.

GIS for Policy and Program Evaluation III *Stanbro*

Intermediate

Moderator

Angela Moore Parmley **National Institute of Justice**

Presenters

Timothy M. Bray **University of Texas at Dallas**

Liquidity of Crime: A Case for Fluid Beat Boundaries

Police department beat boundaries are often developed using real or perceived information regarding the geographic distribution of crime, with an aim toward reducing response time and increasing operational efficiency. This information is generally static and based on macro temporal aggregations. Reliance on static, aggregate data may ignore significant temporal variation in the geographic distribution of crime. This paper explores the spatial distribution of crime data in a large city for such variations and presents evidence for reconsideration of police beat structure.

Kenneth M. Johnson **Seattle Police Department**

Issues in the Publishing of Crime Data on the Web

Crime data is provided in many forms on the World Wide Web. Some agencies display only crime totals by census tract per month. Other police departments show crime data on maps, often at a detail of a "hundred-block." Issues of confidentiality, privacy, effect on commercial activity, and accuracy of data govern whether it is proper to make maps of crime data publicly available on the Web. Methods to protect the privacy of individuals by aggregating at a higher level will be demonstrated. Web sites will be displayed and policies governing them will be discussed.

Jerry Ratcliffe **Temple University**

Pre-jury Racial Bias in Philadelphia's Courts: A Study Using Location Quotients and Force-field Analysis

This presentation examines the issue of racial representation on jury panels by exploring the spatial dimensions of pre-jury appearance and demographics in the City of Philadelphia. Location quotients are a useful descriptive tool for this type of work, but as this study shows, they can also be employed quantitatively. In addition, the presentation demonstrates an application of force-field analysis, a method more frequently employed by strategic criminal intelligence analysts. The findings of the study signal possible action points for court administrators and criminal justice practitioners.

GIS for Public Safety VI (Other Disciplines Similar Methods) *Arlington*

Intermediate

Moderator

Joseph E. Pascarella — **New York Police Department**

Presenters

Martin Kulldorff — **Harvard Medical School and Harvard Pilgrim Health Care**

A Space-Time Permutation Scan Statistic for Early Outbreak Detection
(Martin Kulldorff, Farzad Mostashari, Rick Heffernan, Jessica Hartman)
Researchers present and illustrate a space-time permutation-based scan statistic for local hotspot detection and inference. With daily analyses of hospital emergency room data, this method is currently used by the New York City Department of Health for the early detection of localized disease outbreaks. The method automatically adjusts for any purely spatial and purely temporal variation in the data due to, for example, consistent non-time varying geographical differences in health care utilization patterns or naturally occurring day-of-week variation. The method may potentially be useful for the early detection of local crime 'outbreaks' as well.

Marc L. Swatt — **Northeastern University**

Short-Term Crime Forecasting for Small Geographic Areas
The purpose of this study was to forecast crime reports for burglary and robbery one month in advance for city blocks in a medium-sized midwestern city. A Hierarchical Linear Model (HLM) framework was used to produce monthly forecasts. These forecasts were compared to other baseline models. Results indicate that all models performed reasonably well. The HLM model was more efficient than other models as measured by the ratio of true positives to false positives.

Joseph E. Pascarella — **New York Police Department**

Use of Kernel Smoothing to Identify Shifting Violent Crime Patterns in New York City
Kernel smoothing spatial analyses are emerging techniques that can be used to identify clusters ("hot spots") of violent crime. Introductory GIS, such as crime mapping, along with crime analysis and management accountability initiatives, such as COMPSTAT, reduced violent crime in New York City by 56 percent from 1994 through 2002. To maintain crime reductions, the next generation GIS for crime analysis and deployment of resources should consist of techniques such as kernel smoothing to identify long-term patterns of violent crime.

Local, Regional, and Federal Mapping Initiative VI (Weed and Seed) *Berkeley*

General Audience

Moderator

Lois Felson Mock — **National Institute of Justice**

Presenters

Dan Drake **U.S. Attorney's Office**

Crime Mapping Efforts in Savannah's Weed and Seed Sites
(Dan Drake, Richard Strait)
Dan Drake will participate in a panel discussion with Mike Washburn and John (Jack) P. O'Connell. The panel will cover Weed and Seed crime mapping efforts in Seattle and Savannah as well as asset mapping and the Wilmington, Delaware, Journey To Crime project. He will include success in the Savannah Impact (SIP), Savannah Community Alert Network (SCAN) project, impacted by the crime mapping efforts.

John P. O'Connell **Delaware Statistical Analysis Center**

Mapping Helps Understanding of the Effectiveness of Weed and Seed Sites
(John P. O'Connell, Richard Harris)
Weed and Seed is a national strategy that targets the toughest neighborhoods across the country. The strategy aims to reduce serious crime and illicit drug trade while strengthening the local communities' ability to work with police to maintain social order and improve quality of life for residents. The "Wilmington Crime Index" is a research-mapping tool that allows Weed and Seed leadership to quickly observe the relative shifts in public safety in the Weed and Seed sites as well as in comparison neighborhoods and the city as a whole. Another part of the presentation will display journey-to-crime information for drug dealers. More than half of arrestees selling illicit drugs in the Wilmington Weed and Seed do not reside in those neighborhoods. Maps will show the relationship of the released offenders' residences to Weed and Seed neighborhoods. Lastly, maps showing relationships between drug hot spots and shootings that resulted in injury or death will be discussed.

Mike Washburn **Seattle Police Department**

Crime Mapping Efforts in Seattle's Weed and Seed Sites
(Mike Washburn, Jeff Wendlandt)
Mike Washburn will participate in a panel discussion with Dan Drake and John (Jack) P. O'Connell. The panel covers Weed and Seed crime mapping efforts in Seattle and Savannah as well as asset mapping and the Wilmington, Delaware, Journey To Crime project.

Offender Travel Behavior III (A Metropolitan Crime Travel Demand Model - Part II)

Georgian

Advanced

Moderator

Ned Levine **Ned Levine & Associates**

Presenters

Richard Block **Loyola University Chicago**

Modeling Metropolitan Criminal Travel Behavior

Testing of the model utilizing robbery incidents for 1997 and 1998 in the city of Chicago will be discussed. In this presentation, the journey to crime for both victims and offenders will be described and modeled, and predicted across the city's Traffic Analysis Zones. The first stage will describe and model origins (home addresses of victims and offenders) and destinations (incidents). Victim origins and incident destinations with known and unknown offenders will be analyzed separately. Incidents that occur at or very close to the victim's or offender's home will be analyzed separately from those that occurred further away. Modeling will incorporate the *CrimeStat III* crime travel demand model. Travel patterns will then be modeled for 6,918 victims and 9,067 offenders who traveled to another traffic zone before becoming involved in a robbery. Actual crime trips will be compared to predicted trips using the technique described in the first presentation.

Dan Helms **National Law Enforcement and Corrections Technology Center**

Modeling Metropolitan Criminal Travel Behavior

The Crime Travel Demand Model was applied to the greater Las Vegas metropolitan area. Crime data covering three years of various types of activity have been compared to the model, and resulting crime trip forecasting results obtained. The crime trips themselves will be examined to see what they may reveal about the movement of offenders around this large, southwestern metropolis, and how these patterns may differ in directionality, distance, and frequency with those of other cities. The results of forecast crime trips from a base year will be compared with actual crime trip information from the following year to see if the predictive power of this model seems likely to hold promise for improved strategic forecasting of criminal behavior. How this information could be applied in a law enforcement context to actually help ameliorate crime will be considered. Finally, ways in which this model could be applied to macro-level crime trip problems, for example, the transportation of international narcotics shipments, the movement of weapons and criminals involved in international terrorism, or the growth of transnational criminal organizations, will be discussed.

Ned Levine **Ned Levine & Associates**

Modeling Metropolitan Criminal Travel Behavior

This panel will continue with the theoretical model and will describe the development of a crime travel demand module in the new version of *CrimeStat III*. There are four sections to the module. First, there is trip generation that allows the modeling of crime origins and crime destinations by zone. Poisson and Ordinary Least Squares regression models have been implemented in this section. Second, there is a trip distribution section that models crime trips from each origin zone to each destination zone. The section also allows the calculation of actual crime trips using observed data (e.g., arrest records) and the comparison to the modeled trips using trip length distribution. Third, there is a modal split section that allows the predicted zone-to-zone trips to be split between different travel modes if sufficient data exist or if reasonable accessibility functions can be estimated. Finally, there is a network assignment section that assigns the predicted trips to a likely route on a network. The model can be used for prediction as well as for testing differential policy effects.

Spatial Analysis and Research VI (E.S.D.A.) *Plaza Ballroom*

Intermediate

Moderator

Spencer Chainey **University College, London**

Presenters

Gaston Pezzuchi **Buenos Aires Province Police Department**

Local Crime Modeling with Geographic Weighted Regression (Space Varying Relationships) – Police Confrontations Example

(Gaston Pezzuchi, Luis Castro)

Following previous studies, and in an attempt to model the spatial phenomena of police confrontations, researchers explored different local approaches and chose geographic weighted regression methods for this study. Preliminary results regarding the influence of socio-economic data, presence or absence of emergency dispute settlement, and overall quantity of events in the offender's residence are presented in an attempt to establish their degree of influence. The presented results indicate the benefits of considering unique spatial characteristics of data (dependency and heterogeneity) at all stages in the analysis.

Andre B. Rosay **University of Alaska, Anchorage**

Exploratory Spatial Analyses of Sexual Assaults of White and Native Victims

(André B. Rosay, Robert Langworthy)

Using data on the locations of sexual assaults reported to the Anchorage Police Department in 2000 and 2001, we used Exploratory Spatial Data Analysis techniques to (1) identify the locations where sexual assaults were concentrated and (2) examine the correlates of these spatial concentrations. In both analyses, we also examined differences between White and Native victimizations. The spatial concentrations of sexual assault victimizations vary significantly by race as do the correlates of the respective spatial concentrations.

Sanjeev Sridharan **Westat**

Spatial Analysis Techniques to Leverage Social Indicator Databases: Illustrative Analysis of Criminal Justice Planning using Exploratory Spatial Data Analysis

(Sanjeev Sridharan, Susan Gholston)

Using social indicator databases, spatial analysis techniques can be implemented to provide greater leverage for criminal justice agencies. The basics of Exploratory Spatial Data Analysis (ESDA) will be illustrated using an example of the child risk scale from Virginia. The focus of the presentation is on the utility of ESDA techniques for State agencies to monitor key performance indicators.

5:30 pm - 7:00 pm **Development Issues in Spatial Crime Analysis Software Roundtable** ***Stanbro***

Moderator

Ronald E. Wilson — **University of Michigan/MAPS Program**

Panelists

Sean Bair — **National Law Enforcement Corrections and Technology Center - Rocky Mountain**

Jason R. Dalton — **University of Virginia**

Ned Levine — **Ned Levine & Associates**

Jerry Ratcliffe — **Temple University**

Ronald E. Wilson — **University of Michigan/MAPS Program**

Development Issues in Spatial Crime Analysis Software Roundtable

In consideration of advances in spatial crime analysis software, the M.A.P.S. program is hosting a roundtable on issues surrounding custom software development. This roundtable will serve as a venue to discuss common concerns, compare software applications, failures and successes, development challenges and modern methods for the development of these applications. While all interested parties are encouraged to attend, this roundtable will be of particular interest to those involved in development, design or writing of software. This is intended as an open-discussion forum, and attendee participation will be encouraged.

Software for the spatial analysis of crime is becoming more available. However, they are wrought with problems, such as lack of parameter specifications, difficulty in formatting input, unusable interfaces, not operating to common standards, being fault intolerant and constructed in un-evolvable ways. Further, there is disparity between commercial and custom software in ability to be interoperable and flexible. The results require users to be patient with quirks, errors, lack of error trapping, unintuitive interfaces; documentation is lacking and interface elements that do not follow common standards.

Specialists in their field write many of their own software applications. While this is warranted, many of these specialists are not software engineers and do not keep up with common practices in the development of software. Rather many of them learned how to write code and construct them on their own, or programmers are hired to write the software; and programmers are not necessarily software engineers. In either case, software engineers are not consulted. As a result, many of the programs are not designed and just written as they are developed. These issues are well addressed topics in the discipline of software engineering and advancements are being made. Nevertheless, these are issues that confound those constructing software for any discipline.

While these may seem trivial, these aspects of custom software can drive people away from using it, or using them when absolutely necessary despite being very powerful. Further, these

applications are constructed in languages that are not ideal for evolving in the future nor to support interoperability. These are necessary for maintainability, scalability and evolvability. Because so much money has been invested in these programs it is unlikely that funds will be available to re-develop them again when operating systems change and they no longer run properly.

These problems will remain for the foreseeable future. Therefore, this roundtable will address the aforementioned issues, identify the most pressing problems and discuss new directions to guide those thinking about, or are already developing software for spatial crime analysis. Introduced will be modern software engineering concepts, methods and techniques to make the developers aware. Particularly the Component-based Software Development (CBSD) method will be presented and demonstrated with examples of this concept, techniques available, and tools to facilitate this method.

Saturday, April 3, 2004

7:30 am - 11:30 am **Registration** ***Mezzanine***

8:00 am - 9:30 am **Concurrent Panels**

Spatial Technology Showcase Session *Hancock*

General Audience

Concentrating GIS Applications at the University Level *Berkeley*

General Audience

Moderator

Peter Manning **Northeastern University**

Presenters

Cynthia Lum **Northeastern University**

Challenging Place-Based Theories and Methods: The Example of the Spatial Relationship Between Street-Level Drug Activity and Crime

Despite criminological and sociological interest in spatial patterning of crime, a number of theoretical and methodological questions remain unresolved or untested, some of which have become unwarranted assumptions used in policy applications. To explore and challenge existing theoretical and methodological assumptions of place-based research, this research uses the example of analyzing spatially the relationship between street-level drug activity and violent crimes. This investigation uses exploratory spatial data analysis (ESDA) and regression modeling to examine these two types of deviance. Additionally, a modified ESDA technique was developed to analyze the spatial dependence between multiple categories of events. Interesting findings emerged, specifically, that social disorganization is still valid in explaining patterning at both micro and macro geographic levels. Systemic/routine variables may not be strongly connected with the drug-violence relationship, and disorder may not be connected to drug and violent crime hot spots as once believed. Early methodological approaches may have misled place-based criminologists.

Jennifer Robinson **Northeastern University**

Spatial Interplay: Measuring the Effects of Conjoined Cues in Environmental Criminology

"Spatial interplay" describes the combined effects of key elements in the urban environment that may contribute to the occurrence of crime. Although the effects of spatial influences on crime may be measured at various levels of spatial aggregation, Dr. Robinson's research argues for an increased focus in environmental criminology at the meso level (see also Mayhew, 1991). The meso level of spatial aggregation, as portrayed in this study, is described as land zoning and land use characteristics surrounding the site subject to criminological inquiry. This study argues that methods of measurement of spatial interplay remain to be developed.

Sean Varano **Northeastern University**

Applying Innovative Analytical Techniques to Old Problems: Data Driven Approaches to Firearm Violence

Levels of firearm violence, both real and perceived, continue to cause serious concern in many urban communities. In recent years, public safety officials are increasingly focused on innovative strategies that result in long-term reductions in gun violence. The success of such initiatives is highly contingent on a comprehensive analytical framework that provides a clear understanding of the problem. Meaningful front-end analyses not only provide a comprehensive picture of the problem, but also offer natural linkages to type and dose of interventions. Using data from a large urban center in Massachusetts, this presentation will document a preliminary framework for analyzing gun violence along with accompanying suggestions for potential interventions.

Crime Mapping Issues *Stanbro*

General Audience

Moderator

Daniel B. Bibel **Massachusetts State Police**

Presenters

Jim B. Pingel **Wisconsin Sentencing Commission**

SACSI and COMPASS: Reflections on NIJ's Data-driven Problem-solving Initiatives

From 1999 to 2002, NIJ awarded grants to 13 cities under two separate but closely-related programs aimed at using GIS and other tools to improve local problem-solving and collaborative decisionmaking. This presentation attempts to summarize the efforts and accomplishments of these 13 sites and presents a model for collaborative, data-driven decisionmaking that can be implemented in any community. The model blends the strengths of both SACSI and COMPASS into a balanced, comprehensive data-sharing and problem-solving model.

Kim Rossmo **Texas State University - San Marcos**

Criminal Investigative Failures

Failures in the criminal investigative process result in unsolved crimes, unsuccessful prosecutions, and wrongful convictions. What causes a major crime investigation to go wrong? The key factors can be grouped into three areas: (1) cognitive tunnels; (2) probability errors; and (3) organizational issues. The role of crime mapping and analysis in both exacerbating and mitigating such failures is discussed. Case examples are used to illustrate the issues.

Daniel B. Bibel **Massachusetts State Police**

Using NIBRS Data for Mapping

(Daniel B. Bibel, Donald Faggiani)

The National Incident Based Reporting System (NIBRS) has the potential of providing useful data for policy makers, practitioners, and researchers. However, the national data set lacks

any data that would allow for mapping. The addition of a small number of data elements would permit the generation of crime incidents maps. The process of moving from the standard NIBRS data set to a mappable one will require some careful work. NIBRS is a complex data set, and standard tools for manipulating and using the data are lacking. There are serious issues of data quality that need to be known and addressed. This presentation will discuss some of the potentials and pitfalls of using an enhanced NIBRS data set for mapping and analysis.

GIS for Public Safety VII (Multi-GIS Issues) *Arlington*

General Audience

Moderator

Julie Wartell **San Diego District Attorney's Office**

Presenters

Michael J. Kollmeyer **City of Wichita**

Beyond the Case Report: GIS Tools for the City of Wichita Police Department

During 2003, the city of Wichita implemented a web-application development tool (GeoSmart.net by MoosePoint Technology, Inc.) to be utilized by all GIS users within the city. One of the applications created by the city GIS was for the police department. Police users now have the ability to find trends and patterns for crimes and their relationships to offender locations. Utilizing the Kansas Department of Corrections parolee lists and crime incidents from the city's record management system, unique opportunities have been given to investigators and officers for solving crimes beyond the case report.

Nanci Plouffe **Chula Vista Police Department**

Traffic Safety

Traffic safety is an on-going issue for Chula Vista Police Department (CVPD). Speeding vehicles, an increase in fatal accidents, a multitude of citizen complaints and traffic congestion around a new school forced CVPD to find innovative ways to analyze the issues associated with traffic safety. In this presentation CVPD will share the different aspects of mapping needed to fully understand the traffic problems and how to focus the responses.

Julie Wartell **San Diego District Attorney's Office**

A District Attorney's Office Use of GIS

This session will highlight the use of GIS in the San Diego District Attorney's Office. The San Diego DA recognizes the value of GIS, and has recently embarked on the implementation of this tool for analysis and evaluation. GIS can be used to understand prosecutorial caseload spatially, aid prosecutors in obtaining enhancements and depicting crime scenes, as well as provide a means to coordinate data and efforts across law enforcement, other agencies, and people involved in public safety throughout the County. A variety of examples will be discussed, and experiences and input are welcomed from the audience.

GRASP - A Geospatial Repository for Analysis and Safety Planning *Georgian*
General Audience

Moderator

Jason R. Dalton — **University of Virginia**

Presenters

Kyun S. Chung — **University of Virginia**
and
Connor T. Fee — **University of Virginia**
and
Jason R. Dalton — **University of Virginia**

GRASP - A Geospatial Repository for Analysis and Safety Planning
(Kyun S. Chung, Jason R. Dalton, Connor T. Fee, Ryan K. Grammer)
The University of Virginia Systems and Information Engineering Department has been commissioned by the National Institute of Justice to develop the Geospatial Repository for Analysis and Safety Planning (GRASP). GRASP is a website that allows users to share spatial data instantaneously with other members of the GIS community. Once a user uploads data in any acceptable format, that data is automatically available to all other users in any format they choose. Registered users who are approved by the NIJ can access any available public data. The aim of GRASP is to have data contributors from 40 states in the next 3 years.

Local, Regional, and Federal Mapping Initiative VII (The Boston Foundation) *Clarendon*
General Audience

Moderator

Charlotte Kahn — **The Boston Foundation**

Presenters

Allan Bishop — **Metropolitan Area Planning Council**

The Metropolitan Area Planning Council's GIS Center
GIS offers key tools to integrate, analyze, and map relevant factors for quality of life in a community. This presentation discusses ongoing work on a number of innovative projects: a regional GIS for the emergency services (ES) departments of seven communities in the Boston area, with training of emergency services personnel in GIS and Pictometry oblique imagery technology; a Pre-Disaster Mitigation (PDM) program for 20 communities along the north and south shores of the Metropolitan Area Planning Council (MAPC) region, which includes a geo-spatial database containing over 3,100 critical infrastructure sites; build-out analyses that enable a community to examine its likely future, based on zoning and other regulations, and to determine if that future is desirable for the community; and a proactive approach to planning that takes into account factors related to economic development, housing, transportation, and the environment.

Joseph Ferreira **Massachusetts Institute of Technology**

MIT's Department of Urban Studies and Planning

The MIT Department of Urban Studies and Planning has been at the forefront of new thinking concerning the use of technology by planners and the impacts of technology on planning. Examples include our research on GIS web services, neighborhood information systems, and collaborative planning tools, and the university's use of these technologies to study urban spatial structure, community development, social capital formation, digital divide issues, and urban design methods. The presentation shows a number of groundbreaking research projects and cutting edge work in developing virtual data warehouses and intelligent web services.

Charlotte Kahn **The Boston Foundation**

Boston Indicators Project at the Boston Foundation

This session presents a brief history and overview of Boston's comprehensive indicators system (bostonindicators.org) with goals and measures in ten sectors, nesting indicators geography, and the capacity for "cross-cut filters" such as race/ethnicity and children and youth. The Boston Foundation is also working with partners City of Boston, Metropolitan Area Planning Council, Massachusetts Institute of Technology (MIT), and others to create an online Regional Data Repository with GIS and other functions. Ms. Kahn will present a report of progress including both goals and hurdles.

Spatial Analysis and Research VII (Quantatative Methods) *Plaza Ballroom*

Advanced

Moderator

Katrina Baum **Bureau of Justice Statistics**

Presenters

Avinash Singh Bhati **The Urban Institute**

Robust Spatial Analysis of Rare Crimes

When analyzing, explaining, and predicting rare crimes at local (intra-city) levels of areal aggregation, such as census tracts, blocks, or neighborhoods, dependent measures are typically small counts (low non-negative integers). In such settings, the readily available spatial-analytical toolkit, developed primarily for continuous criterion measures, may not be appropriate. Moreover, real-world outcomes seldom result from the simple, neat, and mathematically convenient models that researchers sometimes assume. This presentation explains an information-theoretic framework for modeling such rare crimes that permits a flexible functional form. The approach is applied to multivariate regression models analyzing disaggregated homicide types.

Peter K.B. St. Jean **State University of New York at Buffalo**

Investigating the Criminogenic Life-course of Place: Space-Time Analysis of Robberies Using Multi-method GIS

(Peter K. B. St. Jean, Christopher A. Badurek)

This study presents a multi-method approach to analyzing and forecasting spatial and temporal distributions of crime across micro neighborhood units such as street blocks. Robberies reported to Chicago police to have occurred in one police beat on the South Side during 1999 and 2000 are analyzed to determine the criminogenic life-course of street blocks. Using Poisson goodness-of-fit test and Chi-Square tests, it is determined that robberies within the study area are not randomly distributed and fall into nine defined ideal types. Multi-method GIS is used to visualize robbery distributions and assist with forecasting potential future robbery hotspots.

Katrina Baum **Bureau of Justice Statistics**

Using GIS to Examine Broken-Windows

One theory of crime that inherently lends itself to spatial analysis is "broken windows" (Wilson and Kelling, 1982). The thesis is that disorder and minor offenses will create environments that breed more serious crime if environments are left unchanged. Recent research on the broken windows thesis casts doubt on the theory and its subsequent applications in practice. Using incident data spanning a five-year period, this study used GIS methods to aggregate point level data up to the census tract level. This level of aggregation enabled controlling for demographic factors. Implications from the study on the broken windows theory will be discussed.

9:30 am - 10:00 am **Break**

10:00 am - 11:30 am **Workshops**

Applications of Census Data in Crime *Georgian*

Intermediate

Presenter

Keith Harries **University of Maryland, Baltimore County**

Census Applications in Crime Analysis

Crime varies with social and economic conditions. The U.S. Census of Population and Housing offers the most comprehensive free resource that permits the preparation of thematic maps and statistical reports for areas as small as Block Groups with a population of about 1000. This workshop explains how to access census data and use it to answer questions about local conditions relevant to crime.

Automating a Multi-Jurisdicational System *Arlington*

Advanced

Presenter

Douglas Hicks **Minneapolis Police Department**

Establishing and Automating a Multi-Jurisdiction Multi-Discipline Information System on your Desktop? The New Law Enforcement Information Paradigm

The Minneapolis Police Department (MPD) has established a powerful alliance among probation, corrections, courts, State Gang Task Force, public housing, Sheriff's warrants administration, and others such as surrounding communities. Automated queries of shared databases, combined with MPD incident data have created an incredibly powerful information exchange that has changed the way the justice system works in Minnesota. Many of the automated products are designed for GIS use. GIS users get the specific information they need to quickly generate map products. The presentation offers strategies to gain access to multi-jurisdiction multi-discipline data and how to automate and manage the query process.

Grant Proposal Writing *Stanbro*

General Audience

Presenter

Mark S. Davis **Kent State University**

Writing Successful Grant Proposals

This workshop presents the basics of preparing a funding proposal, including how to develop a problem statement, describe project activities, formulate measurable objectives, consider evaluation options, prepare a budget and budget narrative, describe organizational and individual capabilities, and solicit meaningful letters of participation. Also covered are common mistakes grant writers make and how to avoid them. Attention will be paid to specific sources of grants and related information.

National Spatial Data Infrastructure *Berkeley*

General Audience

Presenter

Milo Robinson **U.S. Department of the Interior**

National Spatial Data Infrastructure

The Federal Geographic Data Committee, a 19-member interagency committee composed of representatives from the Executive Office of the President, Cabinet-level, and independent agencies, is developing the National Spatial Data Infrastructure (NSDI) in cooperation with organizations from state, local, and tribal governments; the academic community; and the private sector. NSDI forms policies, standards, and procedures for organizations to cooperatively produce and share geographic data. This workshop will describe the NSDI.

Small Unit Spatial Analysis *Clarendon*

Advanced

Presenter

Dennis W. Roncek **University of Nebraska at Omaha**

Using Small Area Data for Analyzing Crime Patterns: Issues and Resolutions

As concern about the locations of crime, criminals, and victims has increased, the importance of accurately identifying these locations has become much more serious. In large part, this concern with precision has increased due to the importance of linking advanced research methods with policy efforts. This workshop will discuss several advantages and pitfalls of working with small area data. It will discuss the availability of data from the Census, strategies for overcoming the gaps in data from the Census, the problems of working with agency data for small areas, along with methodological and statistical strategies to overcome these problems.

Thematic Mapping Principals *Plaza Ballroom*

Intermediate

Presenter

Ronald E. Wilson **University of Michigan/MAPS Program**

Thematic Mapping Principals

This workshop will address three main themes of the five major thematic mapping schemes. First, it will address the definitions of each classification scheme. Second, it will address the advantages and disadvantages of each scheme. Finally, it will address "when" and "when not" to use each scheme and which scheme is more or less appropriate, based on the underlying data distribution.

Tough on Crime: Crime Analysis and Mapping *Hancock*

Intermediate

Presenter

Nanci Plouffe **Chula Vista Police Department**

Tough on Crime – Crime Analysis and Mapping

The Chula Vista Police Department's (CVPD's) Tough on Crime program takes a detailed and systematic look at crime trends and emerging trends through crime mapping. The demonstration shares methods for conducting geographic analysis of crime trends and parolee and sex registrant information. It looks at how the information is disseminated to patrol officers to help them drive their community oriented policing and problem solving efforts. Key points include: roll call presentations, interactive mapping, investigation support, and project support for problem oriented policing.

11:45 am - 12:00 pm **Closing Remarks (Outreach and Collaboration)** ***Imperial Ballroom***

Debra A. Stoe **MAPS Program**